

13

Referring to FIG. 53, the system 300 includes a base 302, a support column 304, a first support arm 306, a second support arm 308 and a third support arm 310. Each support arm 306, 308 and 310 includes at least two coupling assemblies 312, and preferably three such assemblies 312. The support column 304 also includes once such assembly 312, although this member could also include several assemblies 312 if needed. Support arms 306, 308 and 310 each also include a mounting member 314 (with the mounting member of support arm 306 being hidden in FIG. 53) which is disposed preferably at an approximate mid-point along a length of its support arm. Each mounting member 314 is adapted to engage in either one of two positions 90 degrees offset from one another in one of the coupling assemblies 312 in a key-like fashion to hold its associated LCD panel in either a portrait orientation or a landscape orientation.

The pair of coupling assemblies closely adjacent each other on each support arms 308 and 310 are provided to space two adjacently positioned LCD panels mounted on each arm slightly farther apart from each other to provide additional clearance needed when the two LCD panels are placed in a landscape orientation. Thus, in a landscape orientation, the two LCD panels supported on either of the arms 308 and/or 310 will be supported at the two outermost coupling assemblies 312 near the very ends of each arm. In a portrait orientation the LCD panels will need to be spaced closer to each other, thus requiring one of the LCD panels to be coupled to the more inwardly positioned assembly 312a (FIG. 53) of each support arm 308 and 310. The closely positioned pair of coupling assemblies 312 on support arm 306 enables the third support arm 310 to be mounted in one of two positions on arm 306 depending upon whether the LCD panels are disposed in a landscape or a portrait orientation. FIGS. 55-57 illustrate four LCD panels 316 supported on the display system 300. It will be appreciated that each of the LCD panels 316 includes a mounting member identical or similar to members 314 on a rear housing surface thereof such that each can be quickly and easily coupled to one of the coupling assemblies 312.

It will be appreciated that the display system 300 could easily be used to support less than four LCD panels 316 if desired. For example, in the drawing of FIG. 54 the second support arm 308 could be eliminated and the one LCD panel 316 coupled directly to the vertically uppermost coupling assembly 312. This arrangement is illustrated in FIGS. 58-60. Alternatively, the lower support arm 310 could be eliminated and a LCD panel 316 coupled directly thereto as illustrated in FIGS. 61 and 62.

It will be appreciated that the display system 300 could be easily modified through the use of additional support arms to support more than four LCD panels 316 if needed. For example, the support arm 306 could be lengthened sufficiently to extend above the second arm 308, and a fourth support arm identical to arms 308 and 310 could be coupled perpendicularly thereto such that two extra LCD panels

14

could be supported. An even longer support member and still another extra support arm could be incorporated to support eight LCD panels 316. As can be appreciated, a very large plurality of independent LCD panels can be supported from a single base 302 and support column 304 if needed. Particularly desirable is the feature of being able to orientate the LCD panels 316 in either portrait or landscape mode, or a combination of each, as needed. FIGS. 63 and 64 illustrate variations of the above described display systems incorporating both landscape and portrait orientated LCD panels 316.

Those skilled in the art can now appreciate from the foregoing description that the broad teachings of the present invention can be implemented in a variety of forms. Therefore, while this invention has been described in connection with particular examples thereof, the true scope of the invention should not be so limited since other modifications will become apparent to the skilled practitioner upon a study of the drawings, specification and following claims.

What is claimed is:

1. A modular display system comprising:

a base assembly;

a first support arm, operably coupled to said base assembly;

a second support arm secured to said first support arm and having at least a pair of coupling assemblies for securing to portions of first and second liquid crystal display (LCD) panels;

a third support arm secured to said first support arm and having at least one coupling assembly for supporting a third LCD panel on said third support arm; and

wherein said third support arm may be readily detached from said first support arm to enable said display system to be modularly configured as either a two panel LCD display system or as a three panel or greater LCD display system.

2. The display system of claim 1, wherein said second support arm includes three said coupling assemblies enabling said first and second LCD panels to be supported adjacent one another in either a portrait positions or landscape positions, while minimizing a spacing between said first and second LCD panels.

3. The display system of claim 1, wherein said third support arm includes a pair of said coupling assemblies enabling said third LCD panel, and a fourth LCD panel, to be supported thereon.

4. The display system of claim 3, wherein said third support arm includes three of said coupling assemblies enabling said third and fourth LCD panels to be supported in either a portrait or a landscape orientation while minimizing a spacing between said third and fourth LCD panels in either one of said orientations.

\* \* \* \* \*

Please add the following new claims:

5. A separate mounting structure securable to a display for permitting rapid coupling and decoupling of the display to and from a support member, the mounting structure comprising a first generally V-shaped engaging member adapted to matingly engage a correspondingly shaped second engaging member disposed on the support member.

6. The mounting structure of claim 5 wherein the first engaging member has edges and is adapted for mating insertion into a generally V-shaped socket having edge-retaining flanges.

7. The mounting structure of claim 5 or 6 further comprising a mounting plate securable to a display, and wherein the first engaging member is a protrusion from the mounting plate.

8. The mounting structure of claim 7 wherein the mounting plate has apertures defined therein for securing the mounting plate to a display having mounting apertures in a pattern corresponding to the pattern of apertures on the mounting plate.

9. A separate mounting structure securable to a display for permitting rapid coupling and decoupling of the display to and from a support member, the mounting structure comprising a first engaging member adapted to matingly engage a correspondingly shaped second engaging member disposed on the support member, wherein the first engaging member is shaped so as to prevent unintentional disengagement when the first engaging member is matingly engaged with the second engaging member.

10. The mounting structure of claim 9 wherein the first engaging member comprises a protrusion adapted to matingly engage a V-shaped socket.

11. The mounting structure of claim 10 wherein the first engaging member has edges and is adapted for mating insertion into a generally V-shaped socket having edge-retaining flanges.

12. The mounting structure of claim 9, 10 or 11 further comprising a mounting plate securable to a display, and wherein the first engaging member is a protrusion from the mounting plate.

13. The mounting structure of claim 12 wherein the mounting plate has apertures defined thereon for securing the mounting plate to a display having mounting apertures in a pattern corresponding to the pattern of apertures on the mounting plate.

14. A separate mounting structure securable to a display for permitting rapid coupling and decoupling of the display to and from a support member, the mounting structure comprising an engaging member having an insertion end for insertion into a correspondingly shaped receiving structure, thereby defining an insertion direction.

wherein at least one position on the first engaging member located behind the insertion end, relative to the insertion direction, is wider than the insertion end.

15. The mounting structure of claim 14 wherein the engaging member comprises a protrusion.

16. The mounting structure of claim 15 comprising a mounting plate securable to a display and wherein the insertion direction defined by the engaging member is parallel to the plate.

17. The mounting structure of claim 15 or 16 wherein the engaging member is generally V-shaped.

18. The mounting structure of claim 17 wherein the engaging members has edges and is adapted for mating insertion into a generally V-shaped socket having edge-retaining flanges.

19. The mounting structure of claim 16 wherein the mounting plate has apertures defined therein for securing the mounting plate to a display having mounting apertures in a pattern corresponding to the pattern of apertures on the mounting plate.

20. A separate mounting plate securable to a display to removably support the display on a support member, the mounting plate comprising a generally V-shaped engaging member having side edges, the V-shaped engaging member adapted for insertion into and mating engagement with a correspondingly shaped socket having flanges, so that upon insertion of the V-shaped engaging member into the socket the side edges of the V-shaped engaging member will be retained by the flanges.

21. The mounting plate of claim 20 wherein the engaging member is a protrusion from the mounting plate.

22. The mounting plate of claim 21 wherein the mounting plate has apertures defined thereon for securing the mounting plate to a display having mounting apertures in a pattern corresponding to the pattern of apertures on the mounting plate.

23. A mounting structure securable to a display for permitting rapid coupling and decoupling of the display to and from a support member, the mounting structure comprising an engaging member adapted for insertion into and mating engagement with a V-shaped socket.

24. The mounting structure of claim 23 wherein the engaging member has edges adapted for retention by corresponding flanges defined by the V-shaped socket.

25. The mounting structure of claim 24 further comprising a mounting plate securable to the display.

26. The mounting structure of claim 25 wherein the engaging member comprises a protrusion from the mounting plate.

27. The mounting plate of claim 26 wherein the mounting plate has apertures defined thereon for securing the mounting plate to a display having mounting apertures in a pattern corresponding to the pattern of apertures on the mounting plate.

28. A display having a mounting structure for permitting rapid coupling and decoupling of the display to and from a support member, the mounting structure comprising a first generally V-shaped engaging member adapted to matingly engage a correspondingly shaped second engaging member disposed on the support member, wherein the engaging member defines at least one retaining surface for receiving a retaining element on the second engaging member.

29. The mounting structure of claim 28 wherein the first engaging member has edges and is adapted for mating insertion into a generally V-shaped socket having edge-retaining flanges.

30. The mounting structure of claim 28 or 29 wherein the first engaging member is a protrusion from the display.

31. The display of claim 28 wherein the mounting structure is disposed on a rear surface of the display.

32. A display having a mounting structure for permitting rapid coupling and decoupling of the display to and from a support member, the mounting structure comprising a first engaging member adapted to matingly engage a correspondingly shaped second engaging member disposed on the support member, wherein the first engaging member is shaped so as to prevent unintentional disengagement when the first engaging member is matingly engaged with the second engaging member.

33. The display of claim 32 wherein the first engaging member comprises a protrusion adapted to matingly engage a V-shaped socket.

34. The display of claim 33 wherein the first engaging member has edges and is adapted for mating insertion into a generally V-shaped socket having edge-retaining flanges.

35. The display of claim 32, 33 or 34 wherein the mounting structure is disposed on a rear surface of the display.

36. A display having a mounting structure for permitting rapid coupling and decoupling of the display to and from a support member, the mounting structure comprising an engaging member having an insertion end for insertion into a correspondingly shaped receiving structure, thereby defining an insertion direction, wherein at least one position on the first engaging member located behind the insertion end, relative to the insertion

direction, is wider than the insertion end and wherein the first engaging member defines at least one retaining surface for receiving a retaining element on the second engaging member.

37. The mounting structure of claim 36 wherein the engaging member comprises a protrusion.

38. The mounting structure of claim 37 wherein the first engaging member defines edges spaced from a surface of the display and adapted to be retained by a second engagement member.

39. The mounting structure of claim 36 or 37 wherein the first engaging member is generally V-shaped.

40. The display of claim 38 wherein the first engaging member is adapted for mating insertion into a generally V-shaped socket having edge-retaining flanges.

41. The display of claim 40 wherein the first engaging member is disposed on a rear surface of the display.

42. A display having a mounting structure for removably supporting the display on a support member, the mounting structure comprising a generally V-shaped engaging member having edges, the engaging member adapted for insertion into and mating engagement with a correspondingly shaped socket having flanges, so that upon insertion of the engaging member into the socket the edges of the engaging member will be retained by the flanges.

43. The display of claim 42 wherein the engaging member is a protrusion from the display.

44. The display of claim 43 wherein the mounting structure is disposed on a rear surface of the display.

45. A display having a mounting structure for permitting rapid coupling and decoupling of the display to and from a support member, the mounting structure comprising an engaging member adapted for insertion into and mating engagement with a V-shaped socket, the engaging member defining at least one retaining surface for receiving a retaining element defined by the socket.

46. The display of claim 45 wherein the engaging member has edges adapted for retention by corresponding flanges defined by the V-shaped socket.

47. The display of claim 46 wherein the engaging member comprises a protrusion from the display.

48. The mounting plate of claim 47 wherein the mounting structure is disposed on a rear surface of the display.

49. A computer, comprising:

(a) a center display having two sides, each side defining a notional line; and

(b) two outer displays supported at opposite sides of the center display,

wherein each outer display is limited to rotational motion about a notional axis that is parallel to the line defined by the side of the center display at which that outer display is supported.

50. The computer of claim 49 further comprising a base portion.

51. The computer of claim 50, wherein the center display is pivotally mounted to the base portion.

52. The computer of claim 51, wherein the two outer displays may be folded over the center display so that the center display having the two outer displays folded thereover may be folded down against the base portion to form a compact unit that may be easily carried.

53. The computer of claim 51 or 52 being a laptop computer.

54. The computer of claim 51 or 52 being a notebook computer.

55. A display structure for a computer, comprising:

(a) a center module having two sides, each side defining a notional line; and

(b) two outer displays supported on opposite sides of the center module;

wherein each outer display is limited to rotational motion about a notional axis that is parallel to the line defined by the side of the center module at which that outer display is supported.

56. The display structure of claim 55, wherein the center module comprises a center display.

57. A system for allowing quick mechanical coupling and decoupling of a display to a support member, the system comprising a coupling component for a display, the coupling component having one of a protrusion and a mating member for engaging therewith, wherein the one is disposed on the display and the other is disposed on the support such that the display can be quickly coupled to the support by engaging the protrusion to the mating member to both prevent unintentional disengagement and to physically support the display on the support member.

58. The system of claim 57, wherein the one is disposed on a rear surface of the display.

59. The system of claim 57, wherein the protrusion is V-shaped.

60. The system of claim 57, wherein the display is a computer monitor.

61. A computer system comprising

a main display having an edge;

an auxiliary display;

a coupling assembly at the edge for coupling the main display to the auxiliary display,  
wherein the coupling assembly permits motion of the auxiliary display that is limited to  
rotational motion about an axis substantially parallel to the edge.